In the specification:

Please amend the paragraph bridging pages 2 and 3 as follows:

The German patent document DE-OS 44 31 865 discloses a method of and a device for producing pressure castings, with which in particular pressure castings of magnesium alloys can be produced. For this purpose the liquid metal is first supplied to a dosing chamber, to which a gas under pressure is supplied as well. Subsequently, the liquid metal is pressed by the pressure gas into a mold nest which before was evacuated. The disadvantage of this method and device for performing the method is that the pneumatic pressure conditions are not suitable for a production from prototypes to the quantities of a series. In the arrangement practically temperature conditions between the tool and the smelter are not provided. The required temperature differences between the smelter and the feed region are too high and thereby are realizable only with considerable technical expenses. In particular, overheating of the sealing element takes place. The open container described in this German reference is not suitable for production of light metal castings over the range from a prototype to the quantities of a series, since the protective gas enclosure, in particular

with the argon can not be built. The post-dosing of a liquid metal required for a series manufacture is also not possible with this solution. The heating elements which are integrated in the smelter in this reference, such as for example heating cartridges can not provide the required [rigidification] solidification of the metal melt.

Please amend the third paragraph in lines 9-20 as follows:

In keeping with these objects and with others which will become apparent hereinafter, one feature of present invention resides, briefly stated, in a method of production of light metal castings, which includes supplying a liquid metal first to a dosing chamber; pumping gas under pressure into the dosing chamber so as to press the liquid metal into a preliminarily evacuated mold nest; performing a production process within a system which is pressure-tightly closed from outside; [performing] heating of the liquid metal in a lower part of a melting device which adjoins a feed system; performing overheating of the liquid metal from a melting condition with a temperature of approximately 630°C to a [rigidification] solidification condition [from a tool side to a lower region of a valve seat]; and supplying and withdrawing a protective gas by a differential pressure system.

Page 7, please amend the second paragraph in lines 9-17 as follows:

The shaping of the casting retort 1 is formed so that it reduces toward a feed system 4. In the lower region toward the feed system 4 the heating means 2 is arranged around the casting retort 1. The shape of the casting retort 1 and the arrangement of the heating means 2 in its lower regions makes possible the production of the required temperature conditions for the melting and feeding process. Because of the conical shape of the casting retort 1 and its arrangement on a base body 5, the required distance and the withdrawal of the heat energy for [rigidification] solidification of the material is realized.

Please amend the paragraph bridging pages 7 and 8 as follows:

The heating means [10] 2 can be formed as resistance heating, infrared heating, or induction heating. The narrowing structure of the casting retort 1 is placed on the base support 5. The outlet 5 of the casting retort 1 is located therefore flush over an opening in the base support 5 and is closed

by a valve unit 3. A casting mold 19 is arranged under the base support 5 so that it is movable vertically and in a horizontal plane. It is connected with an evacuating device 20. After the evacuation the valve unit 3 is removed by a valve control 12 via a mechanical connecting member 13 from the opening, and the supply of liquid metal into the mold nest of the casting mold 19 is released. The supply of the liquid metal, in particular for [post-dosing] additional supply during the manufacture of serial light metal castings to the casting retort 1 is performed via a metal supply 18 from a pre-melting oven 16. The supply of solid light metal can be performed also by means of a sluice device 11 under an available pressure difference between outer atmosphere and an inner pressure in the melting device. The process of solidification of the light metal can be performed by lifting the casting retort 1 and the subsequent placing the casting retort 1 on a tool device of a next workpiece to be treated.

Amend the paragraph in lines 10-18 as follows:

A check valve 17 prevents a return flow of liquid metal as well as pressure equalizaiton. The check valve 17 can be arranged in connection with the metal supply conduit 18 inside the pre-melting oven 16 or in connection with the metal supply conduit 18 inside the casting retort 1. The

arrangement of the check valve 17 inside the casting retort 1 provides for the advantage of pressure freedom in the metal supply conduit [18] 8. Gas supply is performed inside the closed system through a protective gas supply conduit [18] 8 by a pressure intensifier 9. The pressure intensifier 9 supplies a protective gas and then withdraws it after the manufacturing process.

Amend the paragraph bridging pages 8 and 9 as follows:

A control unit is arranged on the protective gas supply conduit 8 and serves for providing a constant pressure. Eventually occurring pressure losses due to gas losses at untight locations are compensated by a protective gas [post-dosing] additional supply 10, for example a protecting gas [envelope] cylinder. The valve control 12 is formed as a pneumatic or hydraulic control. A "sudden" (short-term) opening of the valve unit 3 [act through] actuated by a valve [lock] locking device 14 and thereby [prevent] is a pore formation of the material of the light metal casings is prevented.

Page 9, amend the paragraph in lines 5-20 as follows:

Figure 2 shows a schematical arrangement of a first variant of the casting component group. In the melting device formed as the casting

retort 1, the heating means 20 is arranged around the lower narrowing part. The valve unit 3 closes the opening at outlet part of the casting retort 1 to the casting mold 19. After the performed evacuation by the evacuation device 20 the short term opening of the valve unit 3 is performed through the valve control 12 and the valve lock 14. Thereby the liquid metal flows into the casting mold 19. During the expansion of the metal quantity for each part to be cast, because of the metal losses in the casting retort 1, a multiple of the metal quantity of the part is required. After the supply of the liquid metal into the feed system 4 the [rigidification] solidification process is performed by the withdrawal of the thermal energy through the base support 5 and the automatic withdrawal of the casting mold 19 from the feed system 4. The casting retort 1 inside the casting component group is surrounded by a thermal insulation 6. The available melting temperature is detected by the temperature sensor 7 and the corresponding signal is supplied to the valve control 12.

Please amend the paragraph in lines 1-10 on page 10 as follows:

Figure 3 shows a second variant of the design of the casting mold and the differential pressure system of the inventive device. In this variant the casting retort 1 has a cylindrical shape. The heating means 2 is arranged around the lower cylindrical part of the casting retort 1. The required [heat] temperature difference for the [rigidification] solidification process between the feed system 4 and the casting mold 19 is provided by the thermal insulation 6 and the withdrawal of the casting mold 19 after the supply of the liquid metal. The supply of the protective gas is performed in this variant by a differential pressure system. It is composed of a known [blow] bubble storage 21 and a pump system 22 for supply and withdrawal of the protective gas.

Amended specification:

Please amend the paragraph bridging pages 2 and 3 as follows:

The German patent document DE-OS 44 31 865 discloses a method of and a device for producing pressure castings, with which in particular pressure castings of magnesium alloys can be produced. For this purpose the liquid metal is first supplied to a dosing chamber, to which a gas under pressure is supplied as well. Subsequently, the liquid metal is pressed by the pressure gas into a mold nest which before was evacuated. The disadvantage of this method and device for performing the method is that the pneumatic pressure conditions are not suitable for a production from prototypes to the quantities of a series. In the arrangement practically temperature conditions between the tool and the smelter are not provided. The required temperature differences between the smelter and the feed region are too high and thereby are realizable only with considerable technical expenses. In particular, overheating of the sealing element takes place. The open container described in this German reference is not suitable for production of light metal castings over the range from a prototype to the quantities of a series, since the protective gas enclosure, in particular

with the argon can not be built. The post-dosing of a liquid metal required for a series manufacture is also not possible with this solution. The heating elements which are integrated in the smelter in this reference, such as for example heating cartridges can not provide the required [rigidification] solidification of the metal melt.

Please amend the third paragraph in lines 9-20 as follows:

In keeping with these objects and with others which will become apparent hereinafter, one feature of present invention resides, briefly stated, in a method of production of light metal castings, which includes supplying a liquid metal first to a dosing chamber; pumping gas under pressure into the dosing chamber so as to press the liquid metal into a preliminarily evacuated mold nest; performing a production process within a system which is pressure-tightly closed from outside; [performing] heating of the liquid metal in a lower part of a melting device which adjoins a feed system; performing overheating of the liquid metal from a melting condition with a temperature of approximately 630°C to a [rigidification] solidification condition [from a tool side to a lower region of a valve seat]; and supplying and withdrawing a protective gas by a differential pressure system.

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so that it is movable vertically and in a horizontal plane. It is connected with an evacuating device 20. After the evacuation the valve unit 3 is removed by a valve control 12 via a mechanical connecting member 13 from the opening, and the supply of liquid metal into the mold nest of the casting mold 19 is released. The supply of the liquid metal, in particular for additional supply during the manufacture of serial light metal castings to the casting retort 1 is performed via a metal supply 18 from a pre-melting oven 16. The supply of solid light metal can be performed also by means of a sluice device 11 under an available pressure difference between outer atmosphere and an inner pressure in the melting device. The process of solidification of the light metal can be performed by lifting the casting retort 1 and the subsequent placing the casting retort 1 on a tool device of a next workpiece to be treated.

Amended paragraph in lines 10-18:

A check valve 17 prevents a return flow of liquid metal as well as pressure equalizaiton. The check valve 17 can be arranged in connection with the metal supply conduit 18 inside the pre-melting oven 16 or in connection with the metal supply conduit 18 inside the casting retort 1. The arrangement of the check valve 17 inside the casting retort 1 provides for the advantage of pressure freedom in the metal supply conduit 8. Gas supply

is performed inside the closed system through a protective gas supply conduit 8 by a pressure intensifier 9. The pressure intensifier 9 supplies a protective gas and then withdraws it after the manufacturing process.

Amended paragraph bridging pages 8 and 9:

A control unit is arranged on the protective gas supply conduit 8 and serves for providing a constant pressure. Eventually occurring pressure losses due to gas losses at untight locations are compensated by a protective gas additional supply 10, for example a protecting gas cylinder. The valve control 12 is formed as a pneumatic or hydraulic control. A "sudden" (short-term) opening of the valve unit 3 actuated by a valve locking device 14 and thereby is a pore formation of the material of the light metal casings is prevented.

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casting mold 19. After the performed evacuation by the evacuation device 20 the short term opening of the valve unit 3 is performed through the valve control 12 and the valve lock 14. Thereby the liquid metal flows into the casting mold 19. During the expansion of the metal quantity for each part to be cast, because of the metal losses in the casting retort 1, a multiple of the metal quantity of the part is required. After the supply of the liquid metal into the feed system 4 the solidification process is performed by the withdrawal of the thermal energy through the base support 5 and the automatic withdrawal of the casting mold 19 from the feed system 4. The casting retort 1 inside the casting component group is surrounded by a thermal insulation 6. The available melting temperature is detected by the temperature sensor 7 and the corresponding signal is supplied to the valve control 12.

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Figure 3 shows a second variant of the design of the casting mold and the differential pressure system of the inventive device. In this variant the casting retort 1 has a cylindrical shape. The heating means 2 is arranged around the lower cylindrical part of the casting retort 1. The required temperature difference for the solidification process between the feed system 4 and the casting mold 19 is provided by the thermal insulation

6 and the withdrawal of the casting mold 19 after the supply of the liquid metal. The supply of the protective gas is performed in this variant by a differential pressure system. It is composed of a known bubble storage 21 and a pump system 22 for supply and withdrawal of the protective gas.